IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (previously presented) Non-human transgenic animal having altered melusin expression.

2. (original) Non-human transgenic animal according to claim 1, characterized in that said altered melusin expression is performed by stable or transient modification of melusin expression at transcriptional, translational or post-translational level.

3. (previously presented) Non-human transgenic animal according to claim 1, characterized in that said altered melusin expression is an inactivation of melusin gene.

4. (previously presented) Non-human transgenic animal according to claim 3, characterized in that said gene inactivation is performed by a genetic approach.

5. (previously presented) Non-human transgenic animal according to claim 4, characterized in that said genetic approach is selected from the group consisting of homologous recombination, antisense RNA or DNA, and RNA or DNA interference.

6. (previously presented) Non-human transgenic animal according to claim 1, characterized in that said animal is a melusin-null transgenic animal.

7. (previously presented) Non-human transgenic animal according to claim 1, characterized in that said animal is subjected to hypertensive condition.

8. (original) Non-human transgenic animal according to claim 7, characterized in that said hypertensive condition is determined by surgical operation.

9. (original) Non-human transgenic animal according to claim 8, characterized in that said surgical operation consists in surgical constriction of the transverse aorta.

10. (original) Non-human transgenic animal according to claim 7, characterized in that said hypertensive condition is determined by pharmacological treatment, preferably with hypertensive drugs.

11. (original) Non-human transgenic animal according to claim 7, characterized in that said hypertensive condition is determined by high sodium diet.

12. (previously presented) Non-human transgenic animal according to claim 3, wherein said animal develops at least impaired heart hypertrophy.

13. (previously presented) Non-human transgenic animal according to claim 3, wherein said animal develops at least heart dilation.

14. (previously presented) Non-human transgenic animal according to claim 3, wherein said animal develops at least heart failure.

15. (previously presented) Non-human transgenic animal according to claim 1, wherein said animal is a mammal.

16. (previously presented) Non-human transgenic animal according to claim 15, wherein the mammal is a mouse.

17. (original) Non-human transgenic animal according to claim 16, wherein said mouse belongs to the 129SV, C57Bl or 129SVxC57Bl strain.

18. (previously presented) Method of screening compounds for pharmacological activity comprising the steps of:

i) administering compounds to a non-human transgenic animal according to claim 1 and

ii) selecting a compound that is pharmacologically active in the prevention and/or treatment of heart failure.

19. (previously presented) Method of studying a heart pathology using a non-human transgenic animal according to claim 1, comprising the steps of:

i) exposing a non-human transgenic animal according to claim 1 to hypertensive conditions and

ii) studying development of a heart pathology in said animal, wherein said heart pathology is selected from the group consisting of heart failure, congestive heart failure, dilated cardiomyopathy, hypertensive cardiomyopathy, hypertrophic cardiomyopathy, and heart infarct.

20. (previously presented) Cells derivable from the non-human transgenic animal according to claim 1 and having altered melusin expression.

21. (original) Cells according to claim 20, characterized in that said cells carry a mutation inactivating melusin gene.

22. (previously presented) Cells according to claim 20, characterized in that said cells are lacking melusin expression.

23. (previously presented) Method of screening compounds for pharmacological activity, comprising the steps of:

i) screening compounds against cells according to claim 20 and

ii) selecting a compound a compound that is pharmacologically active in the prevention and/or treatment of heart failure.

24. (previously presented) Method for the preparation of a non-human transgenic animal according to claim 1 comprising the steps of:

i) preparing a non-human transgenic parent animal carrying an inactivated melusin allele;

ii) breeding the parent transgenic animal with a non transgenic animal; and

iii) selecting transgenic animals heterogyzote for the melusin gene mutation.

25. (original) Method according to claim 24, further comprising the step of iv) breeding the heterozygote transgenic animals to select homozygote transgenic animals for the melusin gene mutation.

Claims 26-39 (canceled)

40. (previously presented) Non-human transgenic animal according to claim 7, wherein said animal develops at least impaired heart hypertrophy.

41. (previously presented) Non-human transgenic animal according to claim 7, wherein said animal develops at least heart dilation.

42. (previously presented) Non-human transgenic animal according to claim 7, wherein said animal develops at least heart failure.